

**SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION**

AGENDA ITEM NO. 7

September 6, 1990

STAFF REPORT
(Preliminary Plat)

CASE NUMBER: S/D 90-52 - NORTHWEST VILLAGE 5TH ADDITION

OWNER/APPLICANT: HCA Health Services of Kansas, Inc. c/o Jim Biltz, P.O. BOX 47930, Wichita, KS Zip Code: 67202

SUBDIVIDER: Boyer, Donaldson & Stewart c/o Kenneth Stewart, 1030 First National Bank Bldg., Wichita, KS 67202

SURVEYOR/ENGINEER: Professional Engineering Consultants

LOCATION: North side of 13th St. 1/4 mile east of Tyler

SITE SIZE: 12 Acres

NUMBER OF LOTS

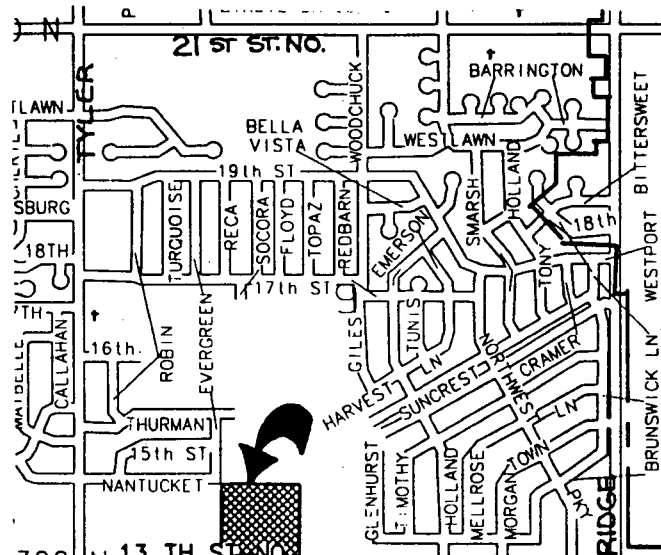
Residential:	
Office:	2
Commercial:	
Industrial:	
Total:	2

MINIMUM LOT AREA: 5 Acres

CURRENT ZONING: "AA" One Family Dwelling

PROPOSED ZONING: "BB" Office District (Z-3006)

VICINITY MAP:



STAFF COMMENTS:

NOTE: A zone change from "AA" single family to "BB" office zoning (Z-3006) has been submitted for this 12 acre site. This request is scheduled to be heard by the CPO, Council 5A and MAPC in early September and consequently is not likely to go to the City Council until October.

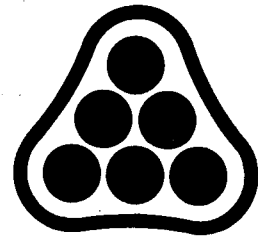
A Community Unit Plan (CUP) (DP-114) was submitted in 1981 for an area of approximately 59.3 acres which included the portion of property involved in this plat. Uses proposed for that CUP also included medical facilities and offices as is being considered for this site. Apartments and other residential uses were also included in that CUP. However, DP-114 was never approved and this site is not covered by a CUP.

- A. A final plat shall not be submitted until the requested zone change has been approved. That plat shall be subject to any conditions established by or for such a zone change.
- B. The applicant shall guarantee any drainage improvements required by the platting of this property.
- C. Traffic Engineering should be prepared to indicate any traffic improvements that should be required for this site. Preliminary estimates indicate that over 2,000 daily vehicle trips can be anticipated to this site. The need for accel/decel lanes, left turn improvements and major entrances should be identified for this site at this time, since no CUP requirements have been established.
- D. City and Traffic Engineering should also be prepared to indicate if additional street right-of-way for 13th Street North should be dedicated from this site to allow for any required traffic improvements. At least sixty (60) feet of half street right-of-way has been dedicated from the west line of this plat westward to Tyler Road for the north side of 13th Street.
- E. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- F. Since the area to the north and east of this site will still be zoned "AA" single-family, a 25-foot building setback shall be platted here to provide for a buffer. These setbacks will need to be platted since no CUP can be used to establish such setbacks.
- G. The applicant shall submit a copy of the instrument which establishes the Phillips Pipeline Easement on this property. The applicant's agent shall determine any setback requirements from the pipeline by researching the text of the pipeline agreement.

- H. Any relocation, lowering or encasement of the pipeline, made necessary by this development, will not be at the expense of the City.
- I. To clearly indicate the location of this pipeline, dimensions shall be indicated from the northwest and southwest corners of Lot 2 to the center line of the pipeline easement.
- J. Prior to or at the time of submitting the final plat, the applicant shall submit a drainage plan to City Engineering for review and approval.
- K. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).
- L. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.
- M. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.
- N. Property to both the north and east of this plat is in the same ownership (HCA, Health Services of Kansas, Inc.). Immediately adjacent to the north line of this plat is a major row of trees that should be considered for preservation. The quarter section to the east and north of this site has largely been developed for residential uses, and a number of streets from these developments were laid out to feed into the area east of and potentially through this site itself. The streets of Nantucket, Suncrest, Harvest and Woodchuck, for example each presently terminate (temporarily at least) adjacent to this site.

The applicant or his agent should be prepared to discuss how this area's overall development is intended to deal with the above indicated conditions concerning preservation of the trees and connecting or completing the public street system feeding toward this site.

- O. The representative from Traffic engineering should be prepared to comment on the previously noted traffic improvements considered for this site or any other additional improvements such as signalization.
- P. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage concept. Engineering also needs to indicate if additional right-of-way should be required for 13th Street North.



PROFESSIONAL
ENGINEERING
CONSULTANTS
PROFESSIONAL ASSOCIATION

DRAINAGE PLAN
AND
SUPPORTING CALCULATIONS

FOR
NORTHWEST VILLAGE 5TH ADDITION
TO
WICHITA, SEDGWICK COUNTY, KANSAS

PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

SEPTEMBER 7, 1990

303 S. TOPEKA
WICHITA, KANSAS 67202
(316) 262-2691
FAX (316) 262-3003



Date 9/6/90 Page 1 of 9
 Project Northwest Village 5th Add.
 Item Drainage Plan.

I HYDROLOGY Use Rational Method $Q = CIA$

Determine "C"

<u>Node</u>	<u>Soil Type</u>	<u>Hyd. Group</u>	<u>Land Use</u>	<u>C₅</u>	<u>C₁₀₀</u>
103	Ma	B	"BB" Office	0.70	0.80
102	Ma	B	"	0.70	0.80
101	Ma	B	"	0.70	0.80
100					

Determine "I"

Assume $t_c = 15$ minutes

$\therefore I_5 = 4.56$

$I_{100} = 7.37$

Determine "A"

<u>Node</u>	<u>Plan. Units</u>	<u>Area (SF)</u>	<u>Area (Ac)</u>
103	25.36	253,600	5.82
102	37.12	371,200	8.52
101	0.96	9,600	0.22
100	-		



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Project Northwest Village 5th Add.
Item Drainage Plan.

Determine "Q₅"

<u>Node</u>	<u>C₅</u>	<u>I₅</u>	<u>A</u>	<u>Q₅</u>
103	0.70	4.56	5.82	18.6
102	0.70	4.56	8.52	27.2
101	0.70	4.56	0.22	0.7
100	-			

Determine "Q₁₀₀"

<u>Node</u>	<u>C₁₀₀</u>	<u>I₁₀₀</u>	<u>A</u>	<u>Q₁₀₀</u>
103	0.80	7.37	5.82	34.3
102	0.80	7.37	8.52	50.2
101	0.80	7.37	0.22	1.3
100	-			



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 Project Northwest Village 5th
 Item Drainage Plan.

II INLET SIZING / FLOOD ROUTING (5 YR)

<u>Node</u>	<u>Inlet Condition</u>	<u>Inlet Type</u>	<u>Q_s</u>	<u>Q_{int.}*</u>	<u>Q_{bypass}</u>	<u>Inlet Size</u>
103	Sump	Area Inlet w/ stub.	18.6	18.6	0.0	
102	Sump	Curb Inlet	27.2	27.2	0.0	{ 1 - 10' 1 - 5'
101	Sump	Curb Inlet	0.7	0.7	0.0	5'

* input in "storm" program.

For curb inlet sizing, see attach graphs.

For area inlet sizing, see page 4.



Date 9/6/90 Page 4 of 9
Project Northwest Village 5th Addition.
Item Drainage Plans.

Area Inlet Sizing

At this writing, the final grading plan for HCA / Wesley (Lot 1) has not been completed. It is proposed that this site drain to Node 103 via private storm sewer & via surface. For the purposes of this report, it is assumed that 60% will be in private SWS & 40% will be on surface.

∴ Design area inlet for 40% × 18.6 cfs = 7.4 cfs
Design SWS stub for 60% × 18.6 = 11.2 cfs.

Check Area Inlet for Weir flow:

Assume allowable head = 0.5'

$$Q = C L H^{3/2}$$

$$7.4 = 3.0 \times L \times 0.5^{3/2}$$

$$7.4 = 3.0 \times L \times 0.3536$$

$$L = 6.98' \quad \text{w/ S.F.} = 1.5, \quad \text{Req'd } L = 10.47'$$

Check Area Inlet for Orifice Flow.

$$Q = C A \sqrt{2gh}$$

$$7.4 = 0.6 \times A \times \sqrt{2 \times 32.2 \times 0.5}$$

$$7.4 = 0.6 \times A \times 5.67$$

$$A = 2.17 \text{ SF} \quad \text{w/ S.F.} = 1.5, \quad \text{Req'd } A = 3.26 \text{ SF}$$



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1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

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Project Northwest Village 5th Addition
Item Drainage Plan

Area Inlet (cont'd)

USE 1 C.O.W. Std 2'x4' Area Inlet
(L = 12' ; A = 2.56 SF)

PLUS 1 C.O.W. Std 2'x2' Area Inlet
(L = 8' ; A = 1.28 SF)

TOTAL L = 20' A = 3.84 SF

NOTE: FINAL SIZING & LOCATION OF INLETS
MAY VARY FROM ABOVE BASED ON
FINAL DEVELOPMENT & GRADING PLANS.



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 Project Northwest Village 5th Addition
 Item Drainage Plan

CHECK STREET FLOW: (13th St.)

Assume that Street Flow = $Q_{100} - Q_s$

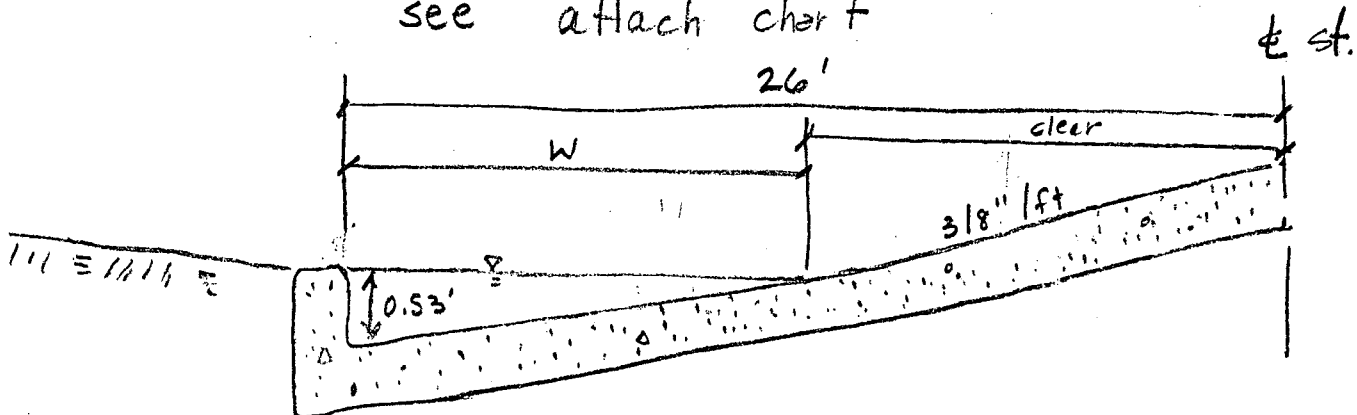
<u>Node</u>	<u>Q_{100}</u>	<u>Q_s</u>	<u>Q_{street}</u>
103	34.3	18.6	15.7 cfs
102	37.7	27.2	10.5 cfs
			<u>26.2</u> ← Q_{100} in 13th.

* Assumed 75% of Q_{100} to 13th St.; 25% to east.

w/ Long. slope = 1.64% ±
 Cross slope = 3/8" / ft

$$d = 0.53'$$

see attach chart



$$W = \frac{0.53'}{3/8" / ft} = \frac{0.53'}{0.03125''} = 17.0'$$

$$clear = 26' - 17' = 9.0' \quad \underline{OK}$$

Note: In the future, an additional 12' decel lane will be provided, resulting in 21' of clear roadway.

100 i, 1343.7003 100 3 4 3

110 t,northwest village 5th addition

120 t,drainage plan

130 t,storm water sewer system analysis

140 i, 103 2.70 5.52 0.00 0.00 18.60 15.20 1349.50

150 i, 102 0.70 0.52 0.00 0.00 27.23 15.00 1346.00

160 i, 101 0.70 0.22 0.00 0.00 0.70 15.20 1346.00

170 m, 100 1343.70

180 p, 103 102 640.00 24 0.013 0.00 0.00

190 p, 102 101 40.00 48 0.013 0.00 0.00

200 p, 101 100 140.00 48 0.013 0.00 0.00

210 e

Input File: nrv5

northwest village 5th addition
drainage plan
storm water sewer system analysis

Storm Frequency = 5-Year

* * * HYDROLOGY * * *

Tributary Area										Hydrology Summation			Conduit Data				
Node to	C	Area	Slope	Length	TC(θ)	I(θ)	Q(θ)	TC	I	Q	Sum Q	Size	Velocity	Length	TT	TT+TC	
Node		(Ac)	(%)	(Ft)	(Min)	(In/Hr)	(CFS)	(Min)	(In/Hr)	(CFS)	(CFS)	(In)	(Ft/Sec)	(Ft)	(Min)	(Min)	
103	102	0.70	5.82	0.00	0.0	15.00	5.22	10.60	15.00	5.22	10.60	18.60	24"	5.92	660.00	11.63	16.86
102	101	0.70	8.52	0.00	0.0	15.00	5.22	27.20	16.86	4.98	25.99	44.59	48"	3.55	40.00	0.19	17.05
101	100	0.70	0.22	0.00	0.0	15.00	5.22	0.70	17.05	4.96	0.67	45.26	48"	3.60	140.00	0.65	17.69



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Project Northwest Village 5th.
Item Drainage Plan. Summary

SUMMARY

As seen on the Drainage Plan drawing, the Northwest Village 5th Addition comprises approximately 11.7 acres out of the total basin of 47.3 acres ($\approx 25\%$).

It is proposed that NW Village 5th. install internal private storm sewers as needed and the 24" line running parallel to 13th St. This line would discharge into a temporary ditch which would drain to an existing field inlet located near the southeast corner, SW 1/4, Sec. 9-275-1W.

It is further proposed that the detention area not be required until the remaining portion of the drainage basin is platted.

EXHIBIT NO. 1

SOIL LEGEND

<u>SYMBOL</u>	<u>HYDROLOGIC GROUP</u>	<u>NAME</u>
Aa	B	Albion-Shellabarger sandy loams, 1 to 4 percent slopes
Ab	B	Albion and Shellabarger sandy loams, 7 to 15 percent slopes
Ba	C	Blanket silt loam, 0 to 1 percent slopes
Bb	C	Blanket silt loam, 1 to 3 percent slopes
Ca	B	Canadian fine sandy loam
Cb	B	Canadian-Waldeck fine sandy loams
Cc	D	Carwile fine sandy loam
Cd	B	Clark-Ost clay loams, 1 to 4 percent slopes
Ce	C	Cline silty clay, 3 to 6 percent slopes
Ea	B	Elandco silt loam
Eb	B	Elandco silt loam, occasionally flooded
Ec	B	Elandco silt loam, frequently flooded
Fa	B	Farnum loam, 0 to 1 percent slopes
Fb	B	Farnum loam, 1 to 3 percent slopes
Fc	B	Farnum loam, sandy substratum, 0 to 1 percent slopes
Ga	D	Goessel silty clay, 0 to 1 percent slopes
Gb	D	Goessel silty clay, 1 to 2 percent slopes
Ia	D	Irwin silty clay loam, 1 to 3 percent slopes
Ib	D	Irwin silty clay loam, 3 to 6 percent slopes
Ic	D	Irwin silty clay loam, 2 to 6 percent slopes, eroded
La	C	Lesho loam
Lb	A	Lincoln soils
Ma	B	Milan loam, 1 to 3 percent slopes
Mb	B	Milan form, 3 to 6 percent slopes
Mc	B	Milan clay loam, 2 to 6 percent slopes, eroded
Na	B	Naron fine sandy loam
Oc	D	Owens clay loam, 1 to 3 percent slopes
Od	D	Owens-Rock outcrop complex, 3 to 10 percent slopes
Pa		Pits
Pb	D	Plevna fine sandy loam
Pc	A	Pratt loamy fine sand, undulating
Pd	A	Pratt-Tivoli complex, rolling
Ra	D	Renfrow silty clay loam, 1 to 3 percent slopes
Rb	D	Renfrow silty clay loam, 3 to 6 percent slopes
Rc	D	Renfrow-Owens clay loams, 1 to 4 percent slopes
Rd	D	Rosehill silty clay, 1 to 3 percent slopes
Sa	B	Shellabarger sandy loam, 1 to 3 percent slopes
Sb	B	Shellabarger sandy loam, 3 to 6 percent slopes
Sc	B	Shellabarger sandy loam, 3 to 6 percent slopes, eroded
Ta	D	Tabler silty clay loam
Tb	D	Tabler-Drummond complex
Ua	B	Urban land-Canadian complex
Ub	B	Urban land-Elandco complex
Uc	B	Urban land-Farnum complex, 0 to 3 percent slopes
Ud	D	Urban land-Irwin complex, 1 to 3 percent slopes
Ue	D	Urban land-Tabler complex
Va	B	Vanoss silt loam, 0 to 1 percent slopes
Vb	B	Vanoss silt loam, 1 to 3 percent slopes
Vc	B	Vanoss silt loam, 3 to 6 percent slopes
Vd	B	Vanoss silt loam, 3 to 6 percent slopes, eroded
Ve	D	Vernon sandy loam, 1 to 3 percent slopes
Vf	D	Vernon sandy loam, 3 to 6 percent slopes
Wa	C	Waldeck sandy loam
Wb	D	Waurika silt loam

ATTACHMENT D

DRAINAGE CRITERIA

CITY OF WICHITA, KANSAS

RECOMMENDED RUNOFF COEFFICIENTS FOR RATIONAL METHOD
AND PERCENT IMPERVIOUS FOR UNIT HYDROGRAPH METHOD

Land Use or Surface Characteristics	Percent Impervious	Frequency			
		2	5	10	100
1. Business:					
Downtown Areas	95	0.84	0.85	0.87	0.91
Neighborhood Areas	70	0.68	0.69	0.73	0.80
2. Residential:					
<u>Single Family (Soil Group D)</u>					
1/8 Acre	50	0.57	0.61	0.66	0.79
1/4 Acre	38	0.50	0.54	0.62	0.76
1/3 Acre	30	0.46	0.50	0.59	0.73
1/2 Acre	25	0.42	0.48	0.56	0.72
3/4 Acre	22	0.42	0.46	0.55	0.71
1 Acre	20	0.41	0.45	0.54	0.71
<u>Multi-Family (Soil Group D)</u>					
Multi-Unit (detached)	60	0.62	0.66	0.72	0.82
Multi-Unit (attached)	65	0.64	0.68	0.73	0.83
Apartments	75	0.70	0.73	0.79	0.86
<u>Single Family (Soil Group C)</u>					
1/8 Acre	50	0.55	0.58	0.64	0.73
1/4 Acre	38	0.48	0.51	0.57	0.68
1/3 Acre	30	0.43	0.46	0.53	0.65
1/2 Acre	25	0.40	0.43	0.50	0.63
3/4 Acre	22	0.39	0.42	0.49	0.62
1 Acre	20	0.37	0.40	0.48	0.61
<u>Multi-Family (Soil Group C)</u>					
Multi-Unit (detached)	60	0.60	0.63	0.69	0.77
Multi-Unit (attached)	65	0.63	0.66	0.71	0.79
Apartments	75	0.68	0.72	0.77	0.83
<u>Single-Family (Soil Group B)</u>					
1/8 Acre	50	0.52	0.54	0.59	0.67
1/4 Acre	38	0.44	0.46	0.52	0.61
1/3 Acre	30	0.39	0.41	0.47	0.57
1/2 Acre	25	0.36	0.38	0.44	0.54
3/4 Acre	22	0.34	0.36	0.42	0.52
1 Acre	20	0.33	0.35	0.40	0.51
<u>Multi-Family (Soil Group B)</u>					
Multi-Unit (detached)	60	0.58	0.60	0.65	0.72
Multi-Unit (attached)	65	0.61	0.64	0.68	0.75
Apartments	75	0.67	0.70	0.74	0.80

Land Use or Surface Characteristics	Percent Impervious	Frequency			
		<u>2</u>	<u>5</u>	<u>10</u>	<u>100</u>
<u>Single Family (Soil Group A)</u>					
1/8 Acre	50	0.47	0.50	0.54	0.60
1/4 Acre	38	0.39	0.41	0.45	0.52
1/3 Acre	30	0.33	0.35	0.39	0.47
1/2 Acre	25	0.30	0.31	0.35	0.44
3/4 Acre	22	0.28	0.29	0.33	0.42
1 Acre	20	0.26	0.28	0.32	0.40
<u>Multi-Family (Soil Group A)</u>					
Multi-Unit (detached)	60	0.55	0.57	0.61	0.67
Multi-Unit (attached)	65	0.58	0.60	0.64	0.70
Apartments	75	0.65	0.68	0.72	0.77
3. Industrial:					
Light Areas	70	0.68	0.69	0.73	0.80
Heavy Areas	80	0.74	0.76	0.79	0.84
4. Playgrounds:					
	15	0.33	0.35	0.42	0.55
5. Schools:					
	40	0.49	0.51	0.56	0.66
6. Railroad Yard Areas:					
	30	0.43	0.45	0.50	0.62
7. Undeveloped Urban Areas: Offsite Flow Analysis (when land use not defined)					
	45	0.52	0.54	0.59	0.68
8. Streets:					
Paved	99	0.87	0.88	0.90	0.93
Gravel	00	0.24	0.26	0.33	0.48
9. Drive, Parking Lots and Walks:					
	96	0.87	0.87	0.88	0.89
10. Roofs:					
	90	0.80	0.85	0.90	0.93
11. Urban Lawn Areas (See Note No. 1 below):					
<u>Soil Group A</u>					
Slope less than 1%	00	0.08	0.09	0.13	0.23
Slope 1% to 4%	00	0.12	0.13	0.17	0.27
Slope more than 4%	00	0.16	0.17	0.21	0.31
<u>Soil Group B</u>					
Slope less than 1%	00	0.16	0.18	0.24	0.37
Slope 1% to 4%	00	0.20	0.22	0.28	0.41
Slope more than 4%	00	0.24	0.26	0.32	0.45
<u>Soil Group C</u>					
Slope less than 1%	00	0.24	0.27	0.35	0.51
Slope 1% to 4%	00	0.26	0.29	0.37	0.53
Slope more than 4%	00	0.28	0.31	0.39	0.55

Land Use or Surface Characteristics	Percent Impervious	Frequency			
		<u>2</u>	<u>5</u>	<u>10</u>	<u>100</u>
<u>Soil Group D</u>					
Slope less than 1%	00	0.28	0.33	0.43	0.63
Slope 1% to 4%	00	0.30	0.35	0.45	0.65
Slope more than 4%	00	0.32	0.37	0.47	0.67

Note No. 1: Coefficients shown in the above table are for pervious open space areas with thick turf which includes pervious areas in parks and cemeteries. Coefficients shown above must be increased 0.02 for use with agricultural pasture areas. Coefficients shown above must be reduced by 0.04 for use with agricultural cultivated areas. Group A soils are well-drained, coarse textured sands with high infiltration rates. Group B soils are moderately well-drained, moderately coarse textured soils with moderate infiltration rates. Group C soils are moderately poor-drained, moderately fine textured soils with slow infiltration rates. Group D soils are poor-drained, fine textured soils with very slow infiltration rates.

GENERAL NOTE: These Rational Formula Coefficients may not be valid for basins 320 acres or larger.

ATTACHMENT A
DRAINAGE CRITERIA MANUAL

CITY OF WICHITA, KANSAS

RAINFALL INTENSITY TABLE FOR SEDGWICK COUNTY, KANSAS

The following tabulation contains rainfall intensity in inches per hour as derived from ESSA Weather Bureau Technical Paper 40 Modified to NWS Hydro-35, 1977 During First Hour

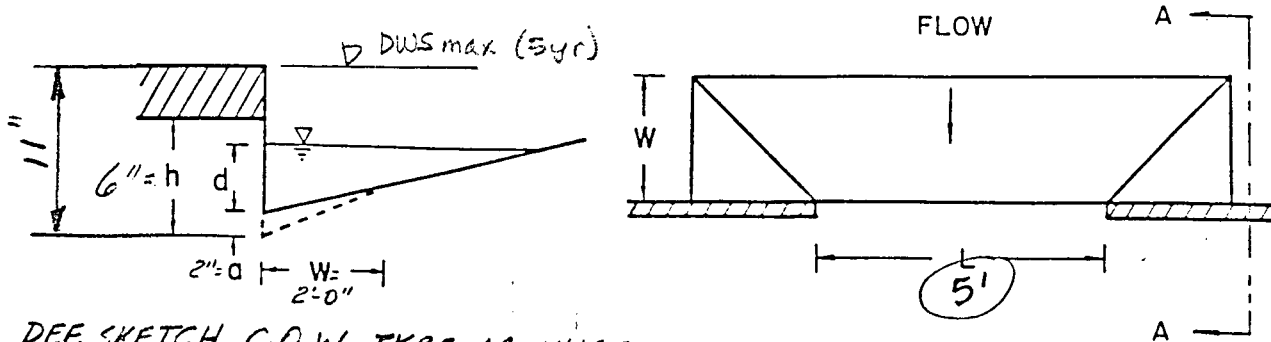
DURATION IN MINUTES	RETURN PERIODS OF						
	1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
5	4.18	5.57	6.53	7.41	8.52	9.48	10.32
6	3.99	5.32	6.25	7.09	8.16	9.09	9.89
7	3.81	5.09	5.99	6.81	7.84	8.74	9.50
8	3.66	4.89	5.75	6.55	7.55	8.42	9.15
9	3.52	4.70	5.54	6.31	7.28	8.13	8.83
10	3.39	4.52	5.34	6.09	7.04	7.86	8.54
11	3.27	4.36	5.16	5.89	6.81	7.61	8.27
12	3.18	4.21	4.99	5.71	6.60	7.38	8.02
13	3.05	4.08	4.84	5.53	6.41	7.17	7.79
14	2.96	3.95	4.69	5.37	6.23	6.97	7.57
15	2.87	3.83	4.56	5.22	6.06	6.78	7.37
16	2.78	3.72	4.43	5.08	5.90	6.60	7.18
17	2.71	3.61	4.31	4.95	5.75	6.44	7.00
18	2.63	3.51	4.20	4.83	5.61	6.29	6.84
19	2.56	3.42	4.10	4.71	5.47	6.14	6.68
20	2.50	3.33	4.00	4.60	5.35	6.00	6.53
21	2.44	3.25	3.90	4.50	5.23	5.87	6.39
22	2.38	3.17	3.81	4.40	5.12	5.75	6.26
23	2.32	3.10	3.73	4.31	5.01	5.63	6.13
24	2.27	3.03	3.65	4.22	4.91	5.52	6.01
25	2.22	2.96	3.57	4.13	4.81	5.41	5.90
26	2.20	2.90	3.50	4.05	4.72	5.31	5.79
27	2.16	2.84	3.43	3.98	4.63	5.21	5.69
28	2.14	2.78	3.37	3.90	4.55	5.12	5.59
29	2.11	2.72	3.30	3.83	4.47	5.03	5.49
30	2.08	2.67	3.24	3.76	4.39	4.94	5.40
31	2.05	2.62	3.19	3.70	4.32	4.86	5.32
32	2.02	2.57	3.10	3.63	4.25	4.79	5.22
33	1.99	2.52	3.05	3.57	4.18	4.71	5.14
34	1.96	2.48	3.01	3.51	4.11	4.63	5.07
35	1.93	2.44	2.98	3.46	4.05	4.56	5.00
36	1.91	2.39	2.93	3.41	3.99	4.50	4.93
37	1.89	2.35	2.88	3.36	3.93	4.43	4.86
38	1.87	2.32	2.84	3.31	3.87	4.37	4.79
39	1.85	2.28	2.80	3.26	3.82	4.31	4.73
40	1.83	2.24	2.76	3.22	3.76	4.25	4.66
41	1.81	2.21	2.72	3.17	3.71	4.19	4.60
42	1.79	2.18	2.68	3.13	3.66	4.13	4.54
43	1.77	2.14	2.64	3.09	3.61	4.08	4.49
44	1.75	2.11	2.61	3.05	3.57	4.03	4.43
45	1.73	2.08	2.57	3.01	3.52	3.98	4.38

ATTACHMENT A CONTINUED
Page 2

<u>DURATION IN MINUTES</u>	<u>RETURN PERIODS OF</u>						
	<u>1-YR</u>	<u>2-YR</u>	<u>5-YR</u>	<u>10-YR</u>	<u>25-YR</u>	<u>50-YR</u>	<u>100-YR</u>
46	1.70	2.05	2.54	2.97	3.48	3.93	4.33
47	1.67	2.02	2.50	2.93	3.44	3.88	4.28
48	1.66	2.00	2.47	2.90	3.39	3.84	4.23
49	1.64	1.97	2.44	2.86	3.35	3.79	4.18
50	1.61	1.95	2.41	2.83	3.32	3.75	4.13
51	1.59	1.92	2.38	2.79	3.28	3.71	4.09
52	1.56	1.89	2.35	2.76	3.24	3.67	4.05
53	1.54	1.86	2.33	2.73	3.20	3.63	4.00
54	1.52	1.84	2.30	2.70	3.17	3.59	3.96
55	1.50	1.81	2.27	2.67	3.14	3.55	3.92
56	1.47	1.79	2.25	2.64	3.10	3.51	3.88
57	1.45	1.76	2.22	2.61	3.07	3.48	3.84
58	1.43	1.74	2.20	2.59	3.04	3.44	3.81
59	1.42	1.72	2.18	2.56	3.01	3.41	3.77
60	1.40	1.69	2.15	2.53	2.98	3.37	3.73
61	1.38	1.67	2.13	2.51	2.95	3.34	3.70
62	1.36	1.65	2.11	2.48	2.92	3.31	3.67
63	1.34	1.63	2.09	2.46	2.89	3.28	3.63
64	1.33	1.61	2.07	2.44	2.86	3.25	3.60
65	1.31	1.59	2.05	2.41	2.84	3.22	3.57
66	1.30	1.57	2.03	2.39	2.81	3.19	3.54
67	1.28	1.56	2.01	2.37	2.79	3.16	3.51
68	1.26	1.54	1.99	2.35	2.76	3.13	3.48
69	1.25	1.52	1.97	2.33	2.74	3.10	3.45
70	1.24	1.50	1.95	2.31	2.71	3.08	3.42
71	1.22	1.49	1.93	2.28	2.69	3.05	3.39
72	1.21	1.47	1.92	2.26	2.67	3.02	3.36
73	1.20	1.46	1.90	2.25	2.64	3.00	3.34
74	1.18	1.44	1.88	2.23	2.63	2.98	3.31
75	1.17	1.43	1.86	2.21	2.61	2.95	3.29
76	1.16	1.41	1.85	2.19	2.58	2.93	3.26
77	1.15	1.40	1.83	2.17	2.55	2.90	3.24
78	1.13	1.38	1.82	2.15	2.53	2.88	3.22
79	1.12	1.37	1.80	2.14	2.50	2.86	3.19
80	1.11	1.36	1.79	2.12	2.48	2.84	3.16
81	1.10	1.34	1.77	2.10	2.46	2.82	3.13
82	1.09	1.33	1.76	2.08	2.43	2.79	3.10
83	1.08	1.32	1.74	2.06	2.41	2.76	3.07
84	1.07	1.31	1.73	2.04	2.39	2.74	3.04
85	1.06	1.30	1.72	2.02	2.37	2.71	3.01
86	1.05	1.28	1.70	2.00	2.34	2.69	2.99
87	1.04	1.27	1.69	1.99	2.32	2.66	2.96
88	1.03	1.26	1.68	1.97	2.30	2.64	2.93
89	1.02	1.25	1.68	1.95	2.28	2.62	2.91
90	1.01	1.24	1.66	1.93	2.26	2.59	2.88

<u>DURATION IN MINUTES</u>	<u>RETURN PERIODS OF</u>						
	<u>1-YR</u>	<u>2-YR</u>	<u>5-YR</u>	<u>10-YR</u>	<u>25-YR</u>	<u>50-YR</u>	<u>100-YR</u>
91	1.00	1.23	1.65	1.92	2.24	2.57	2.86
92	1.00	1.22	1.63	1.90	2.22	2.55	2.83
93	0.99	1.21	1.62	1.89	2.20	2.53	2.81
94	0.98	1.20	1.61	1.87	2.19	2.51	2.79
95	0.97	1.19	1.59	1.85	2.17	2.49	2.76
96	0.96	1.18	1.58	1.84	2.15	2.46	2.74
97	0.96	1.17	1.57	1.82	2.13	2.44	2.72
98	0.95	1.16	1.56	1.81	2.12	2.42	2.70
99	0.94	1.15	1.54	1.80	2.10	2.41	2.67
100	0.93	1.14	1.53	1.78	2.08	2.39	2.65
101	0.93	1.13	1.52	1.77	2.07	2.39	2.65
102	0.92	1.13	1.51	1.75	2.05	2.35	2.61
103	0.91	1.12	1.50	1.74	2.04	2.33	2.59
104	0.90	1.11	1.49	1.73	2.02	2.31	2.57
105	0.90	1.10	1.47	1.72	2.01	2.30	2.55
106	0.89	1.09	1.46	1.70	1.99	2.28	2.54
107	0.88	1.09	1.45	1.69	1.98	2.26	2.52
108	0.88	1.08	1.44	1.68	1.96	2.25	2.50
109	0.87	1.07	1.43	1.67	1.95	2.23	2.48
110	0.87	1.06	1.42	1.65	1.93	2.21	2.46
111	0.86	1.06	1.41	1.64	1.92	2.20	2.45
112	0.85	1.05	1.40	1.63	1.91	2.18	2.43
113	0.85	1.04	1.39	1.62	1.89	2.17	2.41
114	0.84	1.03	1.38	1.61	1.88	2.15	2.40
115	0.84	1.03	1.37	1.60	1.87	2.14	2.38
116	0.83	1.02	1.36	1.59	1.86	2.12	2.36
117	0.82	1.01	1.36	1.58	1.84	2.11	2.35
118	0.82	1.01	1.35	1.57	1.83	2.09	2.33
119	0.81	1.00	1.34	1.56	1.82	2.08	2.32
120	0.81	0.99	1.33	1.55	1.81	2.07	2.30

<u>DURATION IN HOURS</u>	<u>RETURN PERIODS OF</u>						
	<u>1-YR</u>	<u>2-YR</u>	<u>5-YR</u>	<u>10-YR</u>	<u>25-YR</u>	<u>50-YR</u>	<u>100-YR</u>
2	0.81	0.99	1.33	1.55	1.81	2.07	2.30
3	0.59	0.72	0.97	1.13	1.32	1.51	1.68
4	0.47	0.58	0.78	0.91	1.06	1.21	1.35
5	0.40	0.49	0.66	0.77	0.89	1.02	1.14
6	0.35	0.42	0.57	0.67	0.78	0.89	0.99
8	0.28	0.34	0.46	0.53	0.62	0.71	0.79
10	0.23	0.29	0.39	0.45	0.52	0.60	0.67
12	0.20	0.25	0.33	0.39	0.45	0.52	0.58
18	0.15	0.18	0.24	0.28	0.33	0.38	0.42
24	0.12	0.15	0.20	0.23	0.27	0.31	0.34



DEF. SKETCH, C.D.W. TYPE 1A INLET

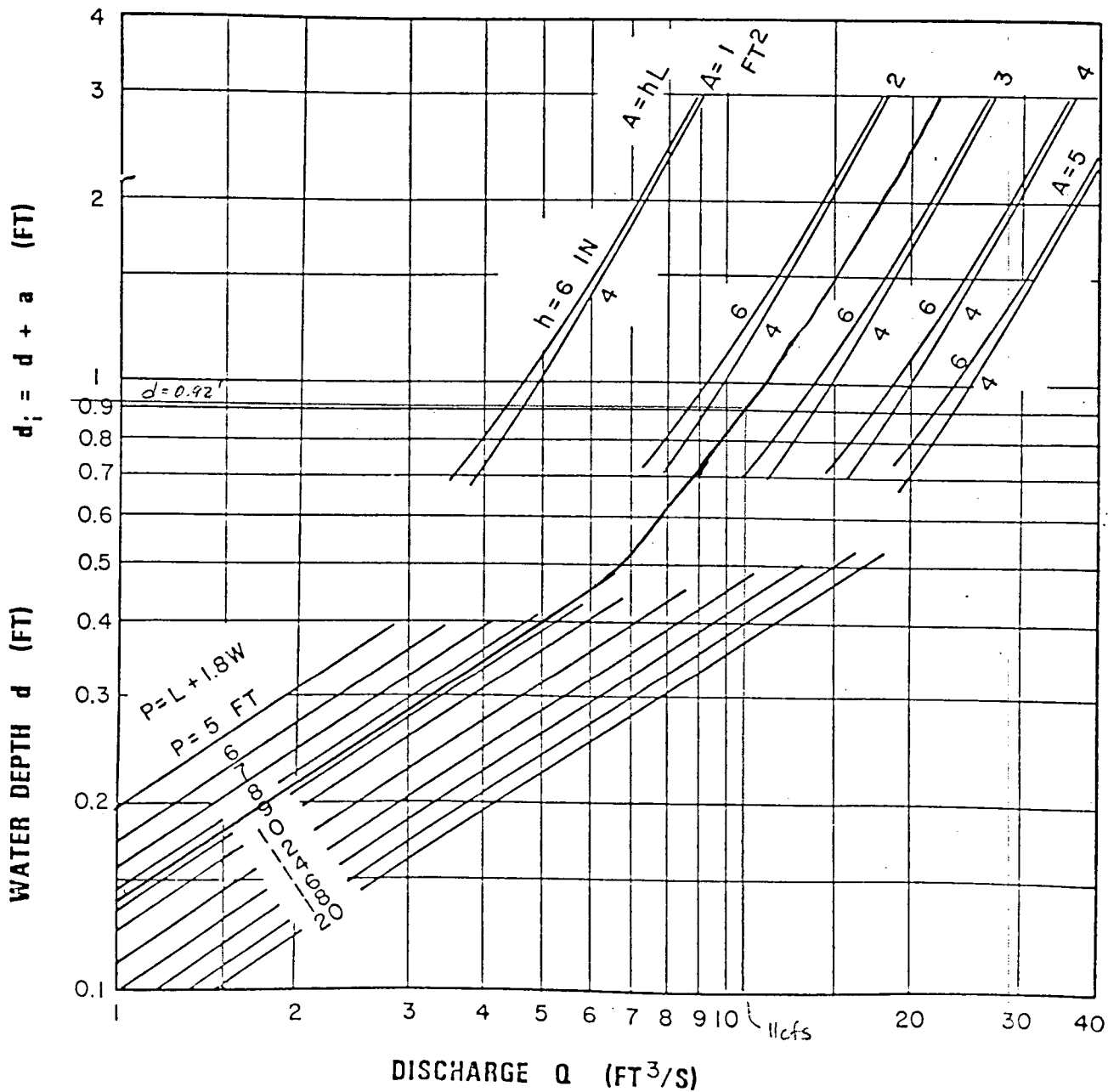


CHART 12. Depressed curb-opening inlet capacity in sump locations.

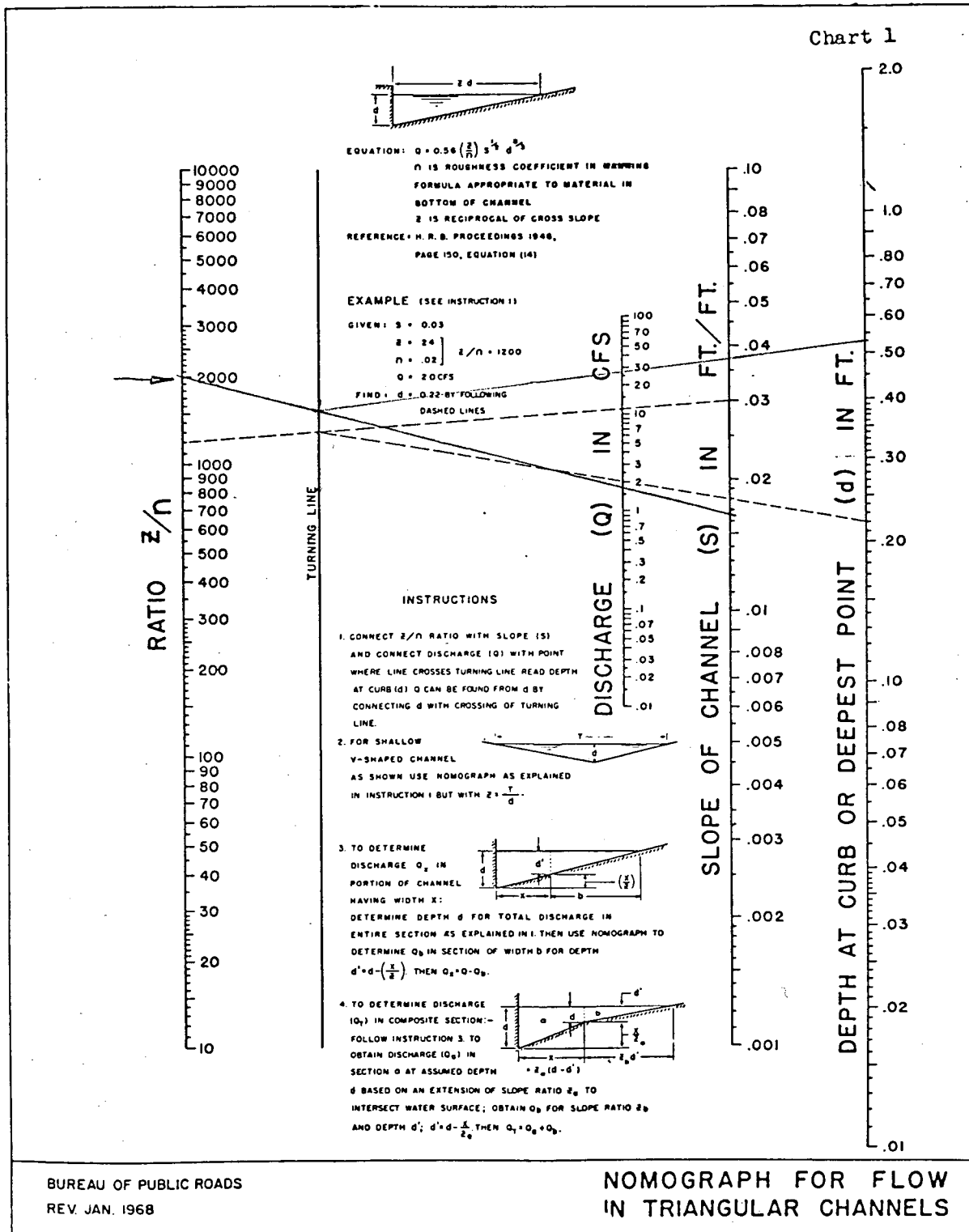
FROM: HEC-12, DRAINAGE OF HIGHWAY PAVEMENTS, FHWA, MAR, 1984

$x\text{-slope} = 3/8 \text{ "/ft} = 0.03125$

$Z = 1/x\text{-slope} = 1/0.03125 = 32$

$n = 0.016$

$Z/n = 32/0.016 = 2000$



**SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION**

AGENDA ITEM NO. 3
September 20, 1990

STAFF REPORT
(Preliminary Plat Approved 9/6/90)
(Final Plat)

CASE NUMBER: S/D 90-52 - NORTHWEST VILLAGE 5TH ADDITION

OWNER/APPLICANT: HCA Health Services of Kansas, Inc. c/o Jim Biltz, P.O. BOX 47930, Wichita, KS Zip Code: 67202

SUBDIVIDER: Boyer, Donaldson & Stewart c/o Kenneth Stewart, 1030 First National Bank Bldg., Wichita, KS 67202

SURVEYOR/ENGINEER: Professional Engineering Consultants

LOCATION: North side of 13th St. 1/4 mile east of Tyler

SITE SIZE: 12 Acres

NUMBER OF LOTS

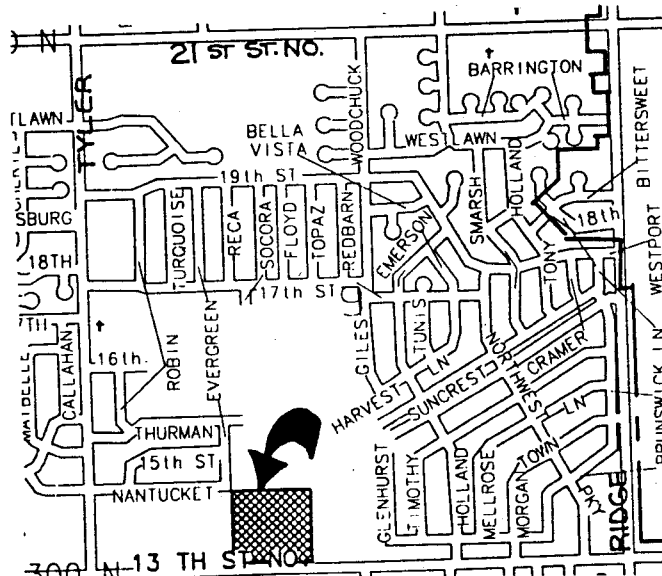
Residential:	
Office:	2
Commercial:	
Industrial:	
Total:	2

MINIMUM LOT AREA: 5 Acres

CURRENT ZONING: "AA" One Family Dwelling

PROPOSED ZONING: "BB" Office District (Z-3006)

VICINITY MAP:



STAFF COMMENTS:

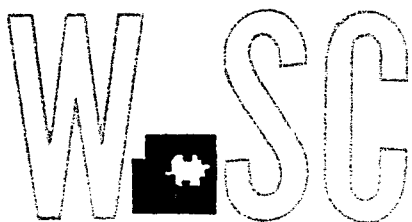
NOTE: A zone change from "AA" single family to "BB" office zoning (Z-3006) has been submitted for this 12 acre site. This request was approved by the CPO, Council 5A on September 5, 1990, and is scheduled to be heard by MAPC on September 13, 1990 and is likely to go to the City Council on October 9, 1990. This final plat will be scheduled for City Council approval after the zoning change.

A Community Unit Plan (CUP) (DP-114) was submitted in 1981 for an area of approximately 59.3 acres which included the portion of property involved in this plat. Uses proposed for that CUP also included medical facilities and offices as is being considered for this site. Apartments and other residential uses were also included in that CUP. However, DP-114 was never approved and this site is not covered by a CUP.

- A. Approval of this plat shall be subject to MAPC and City Council approval of the requested zone change and any conditions of that change.
- B. The applicant shall guarantee any drainage improvements required by the platting of this property. As indicated by the drainage concept for this site, this guarantee may need to include off-site improvements. Also, any needed off-site easements for these improvements shall be obtained. These easements shall be approved by City Engineering and submitted to Planning for recording with the plat.
- C. The applicant shall guarantee an accel/decel lane along 13th Street North (across the full length of this plat) to serve this site.
- D. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- E. The applicant's agent shall determine any setback requirements from the Phillips Pipeline Easement, on this property by researching the text of the pipeline agreement.
- F. Any relocation, lowering or encasement of the pipeline, made necessary by this development, will not be at the expense of the City.
- G. The applicant is advised that the MAPC will be appointing new Officers at its September 13, 1990 meeting. The final plat tracing shall therefore indicate the MAPC chairman as appointed from that meeting.
- H. The representative from Southwestern Bell Telephone should be prepared to indicate if they require any additional easements for this plat.

- I. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.
- J. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.
- K. Perimeter closure computations shall be submitted with the final plat tracing. Section 5-101(c).
- L. Recording of the plat within 30 days after approval by the City Council.
- M. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage plan.

WICHITA — SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
DEPARTMENT

CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

September 21, 1990

Gary Wiley
Professional Engineering Consultants
303 South Topeka
Wichita, KS 67202

Re: S/D 90-52 (Preliminary Plat) Northwest Village 5th

Dear Gary:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, September 20, 1990, the above captioned plat was considered. The action of the Committee was to recommend that this plat be approved subject to:

- A. Approval of this plat shall be subject to MAPC and City Council approval of the requested zone change and any conditions of that change.
- B. The applicant shall guarantee any drainage improvements required by the platting of this property. As indicated by the drainage plan for this site, this guarantee may need to include off-site improvements. Also, any needed off-site easements for these improvements shall be obtained. These easements shall be approved by City Engineering and submitted to Planning for recording with the plat.
- C. The applicant shall guarantee an accel/decel lane along 13th Street North (across the full length of this plat) to serve this site.
- D. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- E. The applicant's agent shall determine any setback requirements from the Phillips Pipeline Easement on this property by researching the text of the pipeline agreement.

- F. Any relocation, lowering or encasement of the pipeline, made necessary by this development, will not be at the expense of the City.
- G. The applicant is advised that the MAPC will be appointing new Officers at its September 27, 1990 meeting. The final plat tracing shall therefore indicate the MAPC chairman as appointed from that meeting.
- H. The applicant shall provide a letter to Southwestern Bell Telephone regarding additional future easements for this plat.
- I. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.
- J. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.
- K. Perimeter closure computations shall be submitted with the final plat tracing. Section 5-101(c).
- L. Recording of the plat within 30 days after approval by the City Council.

Enclosed with the applicant's copy of this letter is a list of the five methods which have been adopted as being acceptable for guaranteeing improvements required in the approval of plats. The certificate will be required if petitions are submitted. Forms for the bond and irrevocable Letter of Credit are available from this office.

The enclosed "marked" copy of the final plat is for your information and files.

This matter will be forwarded to the Planning Commission for its consideration on Thursday, September 27, 1990 at 1:30 p.m. If you have any questions concerning this matter, please call.

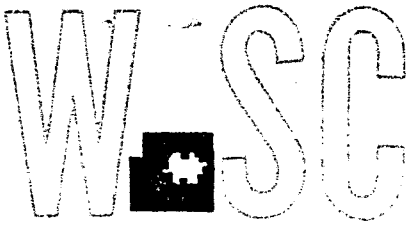
Sincerely,

Kandace A. Jones

Kandace A. Jones
Associate Planner

cc: Kenneth Stewart, Boyer, Donaldson & Stewart, 1030 1st
National Bank Bldg., Wichita, KS 67202
Jim Biltz, HCA Health Services of Kansas, Inc., P.O. Box
47930, Wichita, KS 67202
Mike Lindebak, City Engineer

WICHITA — SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
DEPARTMENT

CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

September 28, 1990

Gary Wiley
Professional Engineering Consultants
303 South Topeks
Wichita, KS 67202

Re: S/D 90-52 - Northwest Village 5th

Dear Gary:

At the regular meeting of the Metropolitan Area Planning Commission on September 27, 1990, the above captioned plat was considered. The action of the Planning Commission was to recommend that the plat be approved as recommended by the Subdivision Committee subject to the conditions stated in our letter of September 21, 1990.

In addition to complying with those conditions, it is necessary that you meet the following requirements before this plat can be forwarded to the City Council for consideration:

1. Submission of the fully completed and signed tracing of the subdivision to the Metropolitan Area Planning Department.
2. Submission of a check, made out to the Register of Deeds, covering the costs of any documents to be recorded as a requirement of platting.

Please call if you have any questions.

Sincerely,

Kandace A. Jones
Associate Planner

KJ:sg

cc: Kenneth Stewart, Boyer, Donaldson & Stewart, 1030 1st
National Bank Bldg., Wichita, KS 67202

Jim Biltz, HCA Health Services of Kansas, Inc., P.O. Box
47930, Wichita, KS 67202

Mike Lindebak, City Engineer

Date: 10-01-1990

Time: 15:56:31

=====
Interactive Coordinate Geometry
P.E.C. Version 4.01
=====

Directory: nvilla.proj
Project Number: 36-

=====
* NORTHWEST VILLAGE 5TH. ADDITION CLOSURE 10-1-90
=====

abr 4 0

14 20 7 13

From Pt. = 20 to Pt. = 7	Distance =	649.130 Ft.
From Pt. = 20 to Pt. = 7	Bearing = 1 - 32 - 8.0000	Quad. = 1
From Pt. = 7 to Pt. = 13	Distance =	804.881 Ft.
From Pt. = 7 to Pt. = 13	Bearing = 88 - 2 - 1.0000	Quad. = 2
From Pt. = 13 to Pt. = 14	Distance =	649.112 Ft.
From Pt. = 13 to Pt. = 14	Bearing = 1 - 57 - 59.0000	Quad. = 3
From Pt. = 14 to Pt. = 20	Distance =	600.000 Ft.
From Pt. = 14 to Pt. = 20	Bearing = 88 - 2 - 1.0000	Quad. = 4

Total Area = 520873.496 Sq.Ft. 11.958 Acres

abr 4 0

21 2 7 13

From Pt. = 2 to Pt. = 7	Distance =	639.130 Ft.
From Pt. = 2 to Pt. = 7	Bearing = 1 - 32 - 8.0000	Quad. = 1
From Pt. = 7 to Pt. = 13	Distance =	804.881 Ft.
From Pt. = 7 to Pt. = 13	Bearing = 88 - 2 - 1.0000	Quad. = 2
From Pt. = 13 to Pt. = 21	Distance =	639.112 Ft.
From Pt. = 13 to Pt. = 21	Bearing = 1 - 57 - 59.0000	Quad. = 3
From Pt. = 21 to Pt. = 2	Distance =	800.075 Ft.
From Pt. = 21 to Pt. = 2	Bearing = 88 - 2 - 1.0000	Quad. = 4

Total Area = 512873.120 Sq.Ft. 11.774 Acres

Pt.No. = 1	5000.000000 N	5000.000000 E
Pt.No. = 2	5059.980149 N	5001.607003 E
Pt.No. = 3	5680.883938 N	5010.466056 E
Pt.No. = 4	5665.537608 N	5697.872404 E
Pt.No. = 5	5026.822032 N	5675.942414 E
Pt.No. = 6	5665.722512 N	5693.069367 E
Pt.No. = 7	5698.880347 N	5010.734829 E
Pt.No. = 8	5675.718921 N	5693.337340 E
Pt.No. = 9	5675.623712 N	5698.218008 E
Pt.No. = 10	5675.531436 N	5698.215527 E
Pt.No. = 11	5520.612975 N	5013.956030 E
Pt.No. = 12	5687.650201 N	5045.825444 E
Pt.No. = 13	5671.262203 N	5823.141916 E
Pt.No. = 14	5022.532879 N	5000.848805 E
Pt.No. = 15	5332.767616 N	5473.061955 E
Pt.No. = 16	5495.015852 N	5489.897508 E
Pt.No. = 17	5510.231134 N	5013.677725 E
Pt.No. = 18	5042.754904 N	5503.312465 E
Pt.No. = 19	5492.889676 N	5510.767141 E
Pt.No. = 20	5049.983457 N	5001.339902 E
Pt.No. = 21	5032.526990 N	5801.211937 E

VICEN
COPY

TEMPORARY DRAINAGE EASEMENT

THIS EASEMENT made this 4th day of October, 19 90, by and between HCA Health Services of Kansas, Inc. of the first part and the City of Wichita, of the second part.

WITNESSETH: That the said first party, in consideration of the sum of One Dollar (\$1.00) and other valuable consideration the receipt whereof is hereby acknowledged, does hereby grant and convey unto the said second party a temporary right-of-way and easement for the purpose of constructing a temporary drainage system, over the following described real estate situated in Sedgwick County, Kansas, to wit:

The North 35 feet of the South 85 feet of the East 1/2 of the Southwest 1/4 of Section 9. Township 27 South, range 1 West of the 6th P.M.; except that part platted as Northwest Village 5th Addition to Wichita, Sedgwick County, Kansas.

This easement does not include a right-of-way over land occupied by a permanent structure. Said temporary drainage easement shall expire at the time subject area is platted and permanent drainage easements or floodways are dedicated.

IN WITNESS WHEREOF: The said first party has signed these presents the day and year first written.

HCA Health Services of Kansas, Inc.

Joseph L. DiLorenzo
Joseph L. DiLorenzo, President

STATE OF TENNESSEE)
) SS
COUNTY OF DAVIDSON)

Personally appeared before me, a notary public, in and for the County and State aforesaid Joseph L DiLorenzo, Pres., HCA Health Services of Kansas, Inc. to me personally known to be the same person(s) who executed the foregoing instrument of writing and said person(s) duly acknowledged the execution thereof.

Dated at Nashville, Tennessee, this 4th day of October, 1990.

Elizabeth A. Limon
Notary Public Elizabeth A. Limon

My Commission Expires May 20, 1992

